One will bring Tennessee closer to the level of UNE prices needed to encourage that competition.

DIRECTOR KYLE: I want to thank the staff. They have worked hard and long seven days a week, and they always wanted an extra day in there, and it was hard for them to find. I know they have accepted every one of my phone calls. I think I would have quit after a while. It was worse than studying for the bar for me. This has been very difficult, but I think we have the most competent staff in the United States, and I commend them for their efforts.

CHAIRMAN GREER: Thank you. Issue No. 1, what cost methodology should the TRA use in setting permanent prices?

I'll move forward with that one. Because there was no disagreement among the parties on this issue, I move that we adopt the forward-looking economic cost methodology as defined by the FCC's TELRIC methodology including an appropriate markup for the recovery of shared and common costs to set permanent prices for unbundled network elements.

DIRECTOR KYLE: Second.

DIRECTOR MALONE: I vote yes.

CHAIRMAN GREER: Issue No. 2, what cost models should be adopted for recurring UNE prices?

DIRECTOR MALONE: The responses of both parties, AT&T and MCI for the Hatfield Model and BellSouth for its TELRIC calculator plus a residual revenue requirement, advocate acceptance of their model and rejection of the alternative model. AT&T advocates the Hatfield Model that builds a network to BellSouth's Tennessee service territory from the ground up taking only BellSouth's central office locations as given and criticizes BellSouth for basing its TELRIC calculator on its existing network. This results in the recovery of embedded costs in violation of the Telecommunications Act of 1996.

BellSouth advocates its TELRIC approach based on forward-looking least-cost technology modifications of BellSouth's existing network and criticizes AT&T-MCI for estimating the idealized cost of a hypothetical network. Consequently, the Hatfield Model understates the investment and costs required to serve BellSouth's territory. The remaining parties generally agree that either model, if properly modified, could be

used to arrive at reasonable cost estimates for the pricing of UNEs.

NEXTLINK states that if the TRA decides to utilize forward-looking economic pricing, it must then decide whether to adopt the Hatfield Model proposed by AT&T-MCI or to make appropriate adjustments to BellSouth's proposed total long run incremental cost, TELRIC calculator cost model, to eliminate the recovery of embedded costs and inefficiencies in BellSouth's existing network. ACSI joined in NEXTLINK's position.

Even AT&T provided prices based on adjustments to the BellSouth model that are needed, quote, if BellSouth's historic embedded costs are to approximate forward-looking prices, close quote.

The Consumer Advocate, Mr. Hickerson, testified against adopting the BellSouth model without corrections but did not review the Hatfield Model and did not render an opinion on it. Dr. Stephen Brown claimed to identify an error in BellSouth's capital cost calculator regarding the so-called AP factor, yet no other witness commented on this claim. The Consumer Advocate failed to cross-examine the relevant

BellSouth witnesses on this issue and no party argued for this adjustment to BellSouth's model in posthearing briefs. Dr. Brown did not comment on the Hatfield Model.

All the intervening parties, however, were uniformly opposed to including BellSouth's residual recovery requirement in UNE prices. BellSouth claims that, quote, completely forward-looking, close quote, UNE pricing will not allow BellSouth to recover its current investment. The RRR represents the difference between the pure TELRIC prices for a loop and a port and the amount needed to recover all of BellSouth's investment in loops and ports. BellSouth claims that failure to allow recovery of this investment will confiscate its property in violation of the Fifth and Fourteenth Amendments to the United States Constitution.

In contrast, Mr. Barta testifying for TCTA-Time Warner states that the RRR reflects the recovery of historical actual costs and has no place in a forward-looking economic cost study. Other parties essentially echo Barta and AT&T that the RRR is merely a method for BellSouth to recover its historic embedded costs over and above its TELRIC costs. BellSouth Witness Zarakas admitted as much by

stating that, quote, it's a recovery of what wasn't in TELRIC, close quote.

I've concluded that neither AT&T-MCI's Hatfield Model nor BellSouth's TELRIC calculator is inherently inconsistent with the FCC's TELRIC methodology. Forward-looking economic costs are inherently hypothetical in nature as they are intended to reflect the expected cost incurred in the near future. Whether one starts with existing costs and modifies them to reflect forward-looking efficient costs or starts with scorched nodes and builds a network using least-cost technology and forward-looking prices, one could arrive at reasonable approximations of the same end by either route. Thus it is not reasonable to reject at this time either model in its entirety on purely methodological grounds.

The residual revenue requirement component of BellSouth's model, however, is clearly inconsistent with any forward-looking economic cost methodology. The only purpose for the RRR is to recover historical costs associated with the existing network. Including the residual revenue requirement has the effect of converting BellSouth's loop and port cost model into a traditional embedded cost

model. Thus it seems to violate both the TELRIC methodology and the Telecommunications Act of 1996 by including a recovery of historical embedded costs as MCI argues.

Further, BellSouth's confiscation argument is, in my opinion, disingenuous as it requires a showing by BellSouth that its earnings on its overall regulated operations in Tennessee are or will be inadequate. I do not at this time, however, recommend any adjustment of the AP factor in BellSouth's capital cost calculator as suggested by Dr. Brown of the Consumer Advocate's Division. Not only is Dr. Brown's justification for this adjustment unclear, but it is not supported by any other party. Due to the evident failure of the Consumer Advocate's Division to file a posthearing brief, it is not even clear whether the Consumer Advocate Division still supports this adjustment.

Therefore, I move that neither the AT&T-MCI Hatfield Model or the BellSouth TELRIC calculator should be rejected on purely methodological grounds. BellSouth's residual revenue requirement, however, should be rejected as it is inconsistent with the FCC's TELRIC methodology and with the Telecommunications Act of 1996.

DIRECTOR KYLE: Second.

CHAIRMAN GREER: Briefly stated.

DIRECTOR MALONE: Very briefly stated.

CHAIRMAN GREER: Make it unanimous.

Issue 3, what is the appropriate level of shared and common costs to be included in the prices for UNEs?

Three proposals were offered for this issue. BellSouth's shared and common cost adjustments were calculated separate from the TELRIC calculator, thus leaving the parties and staff unable to verify the accuracy of BellSouth's calculations.

Hatfield's shared common factor of 10.4 percent is not reasonable for the TELRIC model because the two models treat shared costs differently. Hatfield treats more costs as indirect instead of shared. In order to put these two models on a consistent basis, a factor of 15 percent is needed. ACSI's 15 percent markup to the direct UNE cost is representative of competitive pricing options actually implemented by local exchange telephone companies, including BellSouth, and should best reflect the forward-looking cost estimate in a

competitive environment.

Therefore, I move that the Authority adopt the 15 percent shared and common markup factor and adjust BellSouth's TELRIC model.

DIRECTOR KYLE: I would add, as recommended by ACSI, and I'd be in agreement.

DIRECTOR MALONE: I didn't hear you.

DIRECTOR KYLE: As that was recommended by the ACSI Company, I would agree.

DIRECTOR MALONE: I vote yes.

CHAIRMAN GREER: Issue 4, what are the appropriate fill factors and utilization factors?

BellSouth makes a valid argument when Mr. Taylor argues for a reasonable projection of the fill level to be used in the adopted cost study. However, a reasonable projection does not have to be the actual fill level in the network today. I move that the Authority adopt the fill utilization factors presented by ACSI for use in the BellSouth TELRIC model, and that would be the fill utilization factor for distribution facilities at 54.69 percent; the fill utilization factor for copper fiber is 76.94 percent; and fill utilization factor for fiber

feeder at 76.94 percent.

DIRECTOR KYLE: I vote yes.

DIRECTOR MALONE: Yes, I vote yes.

CHAIRMAN GREER: Issue 5, what depreciation rate should be used in determining permanent prices?

Let me state -- go ahead. Is this as brief as I was going to make it?

DIRECTOR MALONE: Well, not necessarily, but I can --

CHAIRMAN GREER: Take whatever time you like, Director Malone.

DIRECTOR MALONE: I will breeze through my notes and see if I can't just get to the heart of the matter. Although BellSouth argues that the lives prescribed by the FCC in 1993 are much too long, BellSouth admits that the book depreciation reserve as of January 1, '97, using the 1993 FCC prescribed depreciation lives results in a reserve surplus of excess $100 million. This reserve surplus is a result of lives that are too short rather than too long as BellSouth argues.

I agree with ACSI, TCTA, and the CAD in that the FCC rates and the Tennessee-specific

rates that were set in 1993 in the 1993 three-way meeting and utilized the same projection life, average remaining life, and future net salvage should be used in this proceeding. The depreciation lives used in the BellSouth cost study were determined by calculating the average of the proposed lives for BellSouth's nine-state region.

The Tennessee-specific rates were set based upon the plant located in Tennessee and should be used in this docket, in my opinion, since they are most closely related to the Tennessee plant. Therefore, I would move that the TELRIC and Hatfield Models should use Tennessee-specific depreciation lives salvage values and other inputs used in calculating the depreciation rates established by the TPSC in 1993.

DIRECTOR KYLE: Second.

CHAIRMAN GREER: Make it unanimous.

Issue 6, what is the cost -- what cost of capital is appropriate for setting permanent prices?

The parties stated that the choice of comparison group and the choice of model are separate choices. Therefore, using the AT&T

comparison group and BellSouth's discounted cash flow model, yields a cost of equity of 12.46 percent. Ideally, the TRA should adopt forward-looking estimates of the cost of capital for a wholesale UNE leasing business serving BellSouth's Tennessee service territory. On this basis, Billingsley's 7.30 percent cost of debt is slightly more forward-looking than the Cornell-Hirshleifer's recommendation.

Therefore, I move that the Authority adopt a 10.4 percent overall cost of capital and a 12.46 percent cost of equity for use in the models.

DIRECTOR MALONE: Second.

DIRECTOR KYLE: I'll vote yes.

CHAIRMAN GREER: Issue 7, how should network maintenance expense be calculated?

I'll take another run at it. All of the parties agree that productivity should be reflected in the forward-looking cost of the UNEs. The question then is what is a reasonable level of productivity to include? Using the projected plant-specific expense for 1999 as a reasonable forward-looking period for attempting to accurately estimate productivity in the future, AT&T proposes

7 percent compounded for three years through the end of 1999. Therefore, I move that the Authority adopt BellSouth's normalized 1996 Bell -- excuse me -- 1996 plant-specific expense less 22 1/2 percent for calculating the maintenance expense to be included in the UNE cost in all models, including the nonrecurring and collocation models where appropriate.

DIRECTOR KYLE: I vote yes.

DIRECTOR MALONE: I vote yes.

CHAIRMAN GREER: Issue 8, do tax inputs need to be adjusted?

Let me take an easy one. The CAD stated that Ms. Caldwell agreed that the currently settled ad valorem tax rate should be used by the models, and no party objected. Therefore, I move that the Authority adopt the most recent ad valorem tax rates be used in the TELRIC and Hatfield Models.

DIRECTOR KYLE: I would just like to define what "most recent" means, and I would like to suggest that that means 1998.

CHAIRMAN GREER: Director Kyle, I have no problem with that amendment.

DIRECTOR MALONE: I vote yes.

CHAIRMAN GREER: And you agree to

her amendment of --

DIRECTOR MALONE: I don't have any problem with the amendment.

CHAIRMAN GREER: Issue 9, how should monthly prices be determined?

DIRECTOR MALONE: Sifting out my long notes, since the Chairman has forbade the same --

CHAIRMAN GREER: No. You take whatever time. I won't be chairman much longer.

DIRECTOR MALONE: The parties probably like your hint that I shorten. I concur with the Consumer Advocate Division that when annual cost is to be recovered by monthly payments and those monthly payments are determined by dividing the annual cost by 12, excess recovery results. This is a function of the time value of money.

BellSouth agrees that the method presented by the CAD is valid from a conceptual standpoint. BellSouth states that the cost of the loop would be reduced by only 48 cents if monthly compounding is utilized without charging a survivor curves. The CAD explains that survivor curves are an ingredient or component or a part of the process of developing the depreciation rates themselves.

Therefore, I move that unbundled network elements be priced in a manner that considers the time value of money by employing monthly compounding and calculating the monthly unbundled network element rate developed from an annual cost. Both the TELRIC and Hatfield Model should reflect monthly compounding using the recommended overall cost of capital when converting annual costs to unbundled network elements rates.

CHAIRMAN GREER: I'll second.

DIRECTOR KYLE: I vote yes.

CHAIRMAN GREER: Issue 10, what is the appropriate drop length to be used?

This issue is imperative in that the assumed length of the drop will have a direct impact on the cost of the loop. The drop lengths proposed by BellSouth are unsupported. AT&T proposes a length of 100 feet is reasonable for Tennessee based on the 73 foot national average length and the fact that in a forward-looking environment the drop length will be shorter than what currently exists in the network today. Therefore, I move that the Authority adopt the 100 foot -- excuse me -- let me say that clearly -- adopt the 100 foot drop length as an adjustment to the BellSouth TELRIC model.

DIRECTOR KYLE: I vote yes.

DIRECTOR MALONE: I vote yes.

CHAIRMAN GREER: Issue 11, should the loop prices be based on geographically deaveraged costs or statewide average costs? If deaveraged, to what level?

DIRECTOR MALONE: Mr. Chairman, I would move that the decision regarding deaveraging of loop rates be put off and considered in Phase Two after compliant cost studies are received and reviewed.

DIRECTOR KYLE: I vote yes -- second.

CHAIRMAN GREER: I agree.

DIRECTOR MALONE: Mr. Chairman, can I request a brief break? I'm trying to keep my notes in conformity with the notes of the other two Directors, and I want to make sure I'm not mixing anything up.

CHAIRMAN GREER: Absolutely. Let's take a five-minute break.

(Recess taken from 11:15 till 11:20 a.m.)

DIRECTOR MALONE: Mr. Chairman, if I could, I just want to make sure I either

seconded or voted yes on the motion on Issue 6, and act out the numbers you moved and just want to make sure that we're in agreement. Are your numbers supported by a structure of 40 percent debt, 60 percent equity at a cost rate of 7.30?

CHAIRMAN GREER: Let me -- read those again, Director Malone.

DIRECTOR MALONE: 40 percent debt, 60 percent equity, and a cost rate of 7.30.

CHAIRMAN GREER: Yes.

DIRECTOR MALONE: Then we're in agreement. Thank you. That's what happens when you make me delete some of my notes.

CHAIRMAN GREER: I've never known that the Chairman had much luck stifling the opinions of any of the Directors up here, whether you agreed or disagreed with me. Okay.

Issue 12, what is the appropriate loop sampling method for determining permanent prices?

DIRECTOR MALONE: I'm going to have to read my comments in full, Mr. Chairman. I apologize. BellSouth states that the loop model in its cost study stores specific characteristics of the average loop in Tennessee and vendor prices for

various loop components and is used to calculate material costs for narrowband loop and loop-related UNEs.

At the heart of the loop model is a sample of BellSouth loops in Tennessee that is recast or reconfigured to represent the most forward-looking, most efficient technology. Weights are then developed from the data used for the sample and a weighted average cost of a representative loop is calculated. This weighted average loop cost is then subjected to capital cost and other expense factors to arrive at the final loop cost suggested by BellSouth.

BellSouth Witness Ellis Smith testifies that in designing the loop sample for the loop model he employed a stratified systematic sampling procedure using a 1995 customer records information systems database. This resulted in a sample of about 250 loops used for residential service and about 250 loops used for business service.

He stated -- his stated objective was to draw a sample of BellSouth loops which could be used to represent the universe of loops provided by the company. To do this, he took a loop sample

with enough observations to ensure that, quote, a measured characteristic or variable of the sample such as the average loop investment could be said to be within the range of 5 to 10 percent of the actual average loop investment of the universe of loops, close quote.

Witnesses for ACSI, AT&T, and TCTA criticized the method by which Mr. Ellis sampled loops for BellSouth's loop model. The consensus criticism of Smith's sample design is that while loop data were available for a variety of service categories or strata including residential, single line, business, PBX, ESSEX, dedicated WATs, public and semipublic coin, and COCOTs, the sample used in the loop model was restricted to loops from residential and single line business service strata. The omitted strata of loops represent more than 290,000 lines or about 12 percent of all BellSouth's lines in service in Tennessee during 1995.

BellSouth Witness Smith concurs that the omitted strata do not allow the loop model to calculate the cost of a loop that is representative of all the loops in Tennessee. Further, as BellSouth Witness Zarakas agrees, the omitted loops are generally less costly than those

included.

Several BellSouth witnesses contended the excluded loops represent loops that provide services that CLECs would not find economical to provide using unbundled loops. Nonetheless, the opposing parties contend that in terms of associated loop costs, the sample used in the loop model is an upwardly biased representation of the universe of BellSouth's loops in Tennessee.

I concur that the omission of loops from the loop model sample is a serious flaw in BellSouth's cost study. I also agree with the comments put forth by AT&T Witness Heikes. Nevertheless, I believe the complexity and time involved in correcting the existing BellSouth sample design likely would render such an exercise quite burdensome to execute and for other parties to verify.

It is my opinion that BellSouth should apply adjusted weights of loop types as inputs in the existing BellSouth loop model. Therefore, I move that BellSouth use the weights suggested by TCTA Witness Barta of 69.22 percent residential and 30.78 percent business as input values in the residential-business weighting table of its loop

model.

CHAIRMAN GREER: I'll second your motion.

DIRECTOR KYLE: I'd vote yes and just add that this is not my endorsement of the unweighted loop sample that underlines the BST loop model.

CHAIRMAN GREER: Issue 13, is it necessary to set prices for network element combinations? Should IDLC be offered to competing carriers?

DIRECTOR KYLE: Well, I've got a motion. Let me read this into the record. The record shows that integrated digital loop carrier is today the state of the art way of connecting the loop with the switch. It provides a better connection at a lower cost than previous methods of connection. This integration of the loop and switch is made possible by the equipment design of the network product endorsed. It effectively makes this a single network element out of what was originally two network elements.

Pulling these integrated elements apart is a step backward both in network performance and cost. Surely this was not the intent of congress

or the Eighth Circuit Court. I move that when the loop and port are connected in the manner employed by a DLC, they effectively become a single network element which must be offered to competing carriers. I so move.

CHAIRMAN GREER: Director Kyle, while I agree with where you are, I'm not sure I agree with the solution to the problem. I too think the Eighth Circuit Court erred in their decision. I'm not sure that's for me to say at this point, and it certainly was not consistent with the original decision I remember us making in arbitration. Let me read my position into the record and then let's see where we are, and then we'll let Director Malone untie the knot.

Extra conversions from the uncombining and recombining of network elements is important because they affect the end-to-end network performance for the consumer, especially when these circuits are used to carry data. BellSouth is required to provide nondiscriminatory access to network elements such as loops. From this it would follow that the loops provided by a CLEC by BellSouth should be capable of providing equivalent service to a customer as a loop used by BellSouth itself to

serve its customers.

The unbundled loops offered by BellSouth are less able to support the transport of data across the network than the IDLC loops used by BellSouth for its own customers. This performance difference to me represents a barrier to entry for CLECs. It is discriminatory and hence not permitted by the federal act.

My recommendation avoids the combination issue addressed by the Eighth Circuit Court; instead it addresses the performance and price requirements of a suitable unbundled loop which could be an alternative to IDLC bundling of the loop and switching port. BellSouth is free to offer the IDLC technology but has not taken the position that the law says it doesn't have to, and so it will not. BellSouth must, however, supply an unbundled network element loop that provides equivalent performance to the IDLC. Furthermore, the cost of such a loop must be no more than the incumbent company incurs itself when offering such performance to one of its own customers. Otherwise, I believe the practice is discriminatory.

Still, no one has claimed that the law prevents BellSouth from offering IDLC.

Therefore, I move that for customers served by IDLC technology BellSouth must offer an unbundled loop which will allow end users to obtain the same level of performance as that offered by IDLC. Specifically, the unbundled loop should deliver to a CLEC a digital signal which is equivalent to that which enters a switch when IDLC is employed. For example, no additional digital to analog or analog to digital transformation.

The cost of such an unbundled loop should be established so that it is no more than the equivalent of the loop cost associated with an IDLC connection. This should be computed by calculating the combined cost of a loop connected to a switching port with access to all software features using IDLC technology. The loop cost would be the difference between this combined cost and the cost of an unbundled switching port with access to all software features.

DIRECTOR MALONE: Mr. Chairman, I would like to request about a three-week break.

CHAIRMAN GREER: Would you like to continue this case?

DIRECTOR MALONE: This issue is one that is very complex, and as noted by the

evidentiary record, the parties have very strong positions on this issue. But as I stated at the outset, it's our duty here to do what's best for Tennessee as contemplated under the federal act and the state act. This is an issue for which there is no easy solution.

I too have considered the position that Director Kyle has put forward -- many hours and, likewise, the position that Chairman Greer has put forward. My heart and my head going different directions on this issue -- Mr. Chairman, I'm going to second your motion, but I would like to amend it on your comment on costs. I think you said that the cost of such an unbundled element loop should --

CHAIRMAN GREER: I believe what I said was the cost of such a loop must be no more than the incumbent company incurs itself when offering such performance to one of its own customers.

DIRECTOR MALONE: And I would like to amend that, plus, if supportable, any reasonable provisioning cost consistent with all other decisions made herein.

CHAIRMAN GREER: Say that again.

DIRECTOR MALONE: You said that

the cost, I think, of the unbundled loop as you have moved should be established so that it is no more than equivalent of the loop cost associated with the provision of IDLC and I believe from BellSouth to its own customers, its end users. And I would like to add to that, plus, if supportable, any reasonable provisioning cost consistent with, of course, the Act, the Eighth Circuit, and all the decisions we make here today.

CHAIRMAN GREER: The provisioning cost then would -- might run that cost up even more; is that what -- the effect of that would --

DIRECTOR MALONE: Well, I wouldn't characterize it as run that cost up even more, but --

CHAIRMAN GREER: It wouldn't be less.

DIRECTOR MALONE: It could increase the cost to the extent it was supportable. The Act contemplates in provisioning of elements that -- that the ILECs are able to recover the cost of that provisioning, and that's all my amendment would go to, that if the -- that if supportable, that the provisioning be recovered as well.

CHAIRMAN GREER: And they would